

c.means for enhancing the rate of at which water vapor is condensed from the humid air.

37.The water production system of claim 36, wherein:

a.each of the plurality of heat exchangers is elongated, disposed in a parallel relationship to one another, and said plurality of heat exchangers are disposed laterally; and

b.the means for controlling the volume of the cooling fluid passing through the said plurality of heat exchangers interconnects the cooling fluid discharged from each of said plurality of heat exchangers.

38.A water production system for efficiently making potable water in an environment of humid air comprising:

a.at least one heat exchanger in which a cooling fluid flows through internally,

(1)said at least one heat exchanger being disposed in a path of the humid air so that the humid air flows externally on the at least one heat exchanger to condense water vapor from the humid air and produce potable water;

b.means for controlling the volume of the cooling fluid passing through the at least one heat exchanger in response to an amount of heat absorbed by the at least one heat exchanger in the process of condensing water vapor from the humid air; and

c.means for enhancing the rate of at which water vapor is condensed from the humid air including increasing the ambient pressure of the humid air in the path that flows

externally on the at least one heat exchanger with a partially open structure disposed above the at least one heat exchanger and at least one fan for creating a positive air pressure of the humid air in the partially open structure.

39. The water production system of claim 38, wherein the at least one fan
5 comprises a ducted fan humidifier for adding moisture to and increasing the pressure of the humid air entering the dome system,

whereby, the humidity levels within the dome system can be enhanced to increase the condensation rate.

40. The water production system of claim 38, wherein the means for enhancing
10 the rate of at which water vapor is condensed from the humid air further comprises means for vibrating the heat exchanger to break the surface tension of and release the condensed water on an external surface of the at least one heat exchanger.

41. The water production system of claim 38, wherein the means for enhancing
15 the rate of at which water vapor is condensed from the humid air comprises at least one continuous coil that is disposed in the flow of humid air to condense additional potable water from the humid air, each of said at least one continuous coil having an internal passageway extending throughout the length of the coil in which a coolant flows from one end of the coil to the other,

said coolant being one of the cooling fluid before entering the heat exchanger and
20 the cooling fluid discharging from the heat exchanger.

42. The water production system of claim 41, wherein the means for enhancing the rate of at which water vapor is condensed from the humid air further comprises means for periodically moving at least one of the at least one continuous coil to break the surface tension of and release the condensed water on an external surface of the at least one continuous coil.

5 43. The water production system of claim 38, further wherein the means for enhancing the rate of at which water vapor is condensed from the humid air further comprises means for controlling the volume of the cooling fluid passing through the at least one heat exchanger in response to the temperature of the cooling fluid discharging from the heat exchanger.

10 44. The water production system of claim 1, further wherein the means for enhancing the rate of at which water vapor is condensed from the humid air further comprises at least one open sea water reservoir disposed under the dome to enhance humidity.

15 45. The water production system of claim 1, further wherein the cooling water is a refrigerant and further comprising a deep ocean water heat exchanger for re-cooling the refrigerant exiting from the heat exchanger, said deep ocean water heat exchanger having a cold deep ocean water supply which can be returned to the ocean after use and the refrigerant discharging from the deep ocean water heat exchanger can be reused in the water production system cycle.